


# Commercial Tankless **iQ251D**, Gen II Submittal Data

Date:	<input type="text"/>	Bid Date:	<input type="text"/>
Project Name:	<input type="text"/>	Fuel Type:	<input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane
Project #:	<input type="text"/>	Factory Option:	<input type="checkbox"/> iNTouch-BMS
City   State   Zip:	<input type="text"/> <input type="text"/> <input type="text"/>		
Engineer:	<input type="text"/>		
Contractor:	<input type="text"/>		

 Flow (GPM)	Temperature Rise ( $\Delta T$ ) °F						
	40	50	60	70	80	90	100
	12.0	9.6	8.0	6.9	6.0	5.4	4.8



## KEY FEATURES

- Industrial Grade - designed for deionized, RO water
- Robust 316L stainless steel commercial grade heat exchanger, withstands highly corrosive deionized water
- Flexible heat exchanger built to accommodate quick temperature changes and continual ON-OFF cycles with minimal stress
- High power (73kW) in a small package vs. electric water heaters. No need for 440V or larger amperage
- ASME-HLW Compliant
- Industry best 10-year commercial HX warranty
- 3.5" Color Touch Screen - access to usage data, troubleshooting, and parts wear
- Factory monitoring via telliCare messaging.

## PERFORMANCE

- Turndown Ratio of 8.3:1 per unit.
- Cascade up to 10 units with common venting for a total of over 2500MBH and a 83:1 total turndown ratio



## iQ251D, Gen II Short Spec & Accessories

The water heater shall be a direct fired tankless, fully condensing, water-tube design. The power burner shall have full modulation. The minimum firing rate shall not exceed 30,000 BTU/HR. The heat exchanger shall be constructed with 316L stainless steel helical water tube and be fully floating with no welded joints. The water heater control system shall incorporate sequencing logic that would allow masterless cascading without the need for a master controller. Cascaded units shall sequence between each other, operating in parallel to meet the load. Each cascaded unit will default to individual control upon failure of the sequencing chain. Changes to operational parameters on any one of the units will automatically adjust all other units to the most recent parameter change.

### **Recommended Accessories iQ251D:**

#### 1. Condensate Neutralizer Kit

This condensate is acidic, with a pH level between 3 and 4. Local building codes apply for an in-line neutralizer to be installed (not included) to treat this water.

#### 2. Outdoor Installation Kit

#### 3. iBMS BacNET

Intellihot's iNTouch BMS has three unique features that are not available in any other BMS in the industry.

- External Pump Power – Powers building recirculation.
- Remote Setpoint – Allows the temperature to be set remotely via a 0-10 VDC or 4-20mA signal.
- Alarm – Buzzes if it detects anything wrong with any of the components it is connected to, and communicates the appropriate error codes so that the user knows which component needs attention.

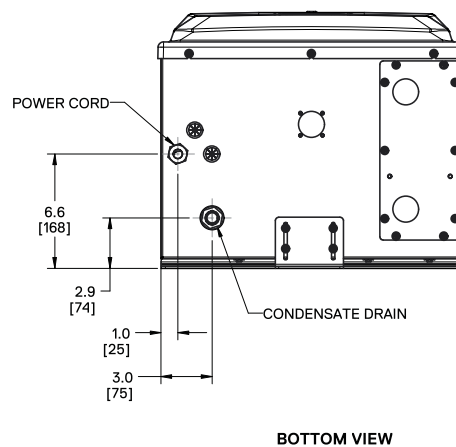
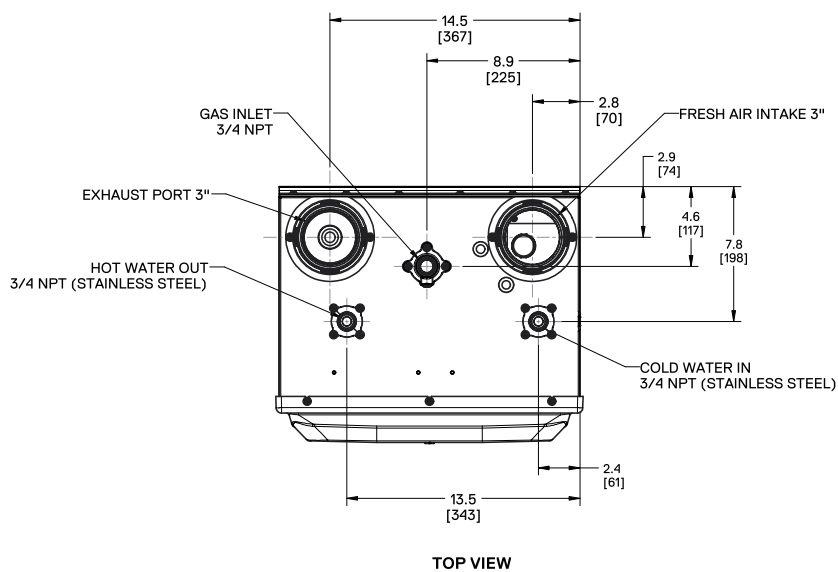
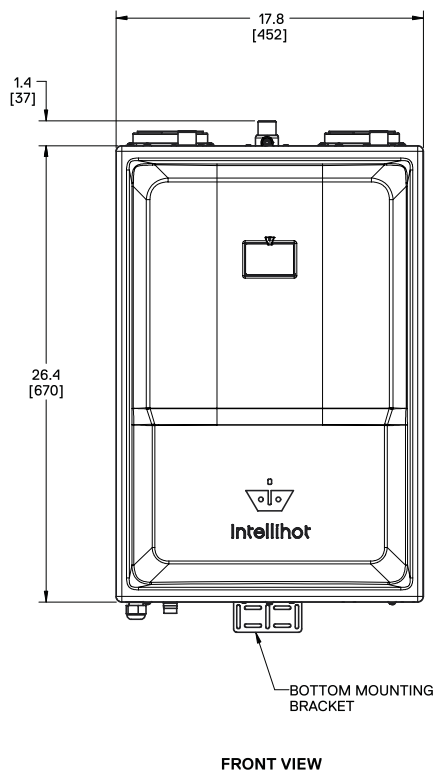
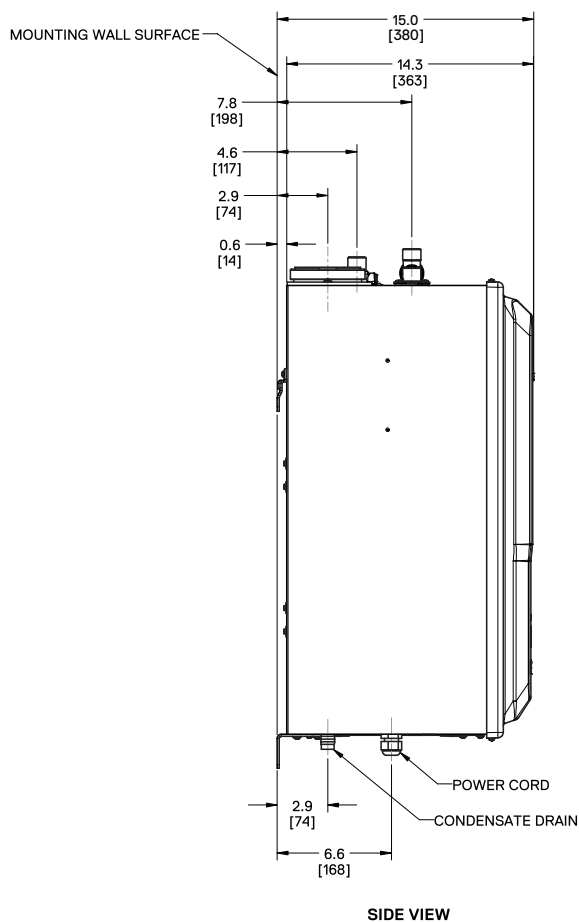
# iQ251D, Gen II Specifications

PARAMETERS	iQ251D, Gen II
Type	Indoor/Outdoor, Wall Hung, Fully Condensing, Tankless On-Demand Water Heater
Fuel	Preset for NG / LP convertible
Minimum / Maximum Input (BTU/hr)	30,000 / 251,000
Maximum Output (BTU/hr)	240,960
Thermal Efficiency	96%
Dimensions H X W X D (Inches)	26.4 X 17.8 X 15 (3.9 CU. FT)
Weight (LBS)	90 LBS
Water Inlet / Outlet Connection	3/4" NPT, Stainless 316L
Gas Inlet Connection	3/4" NPT
Minimum Flow Rate for Activation	0.6 GPM
Ignition	Electronic Spark Ignition
Venting Type	Direct Vent (2 pipe – intake & exhaust), Power Vent (1 pipe – exhaust only)
Venting Materials	Sch. 40 PVC, Sch. 80 CPVC, Polypropylene, Stainless Steel (AL29-4C)
Max 3" Vent Length – Single Pipe / Power Vent	130 ft; deduct 5 ft per 90° elbow and 2 ft per 45° elbow
Max 3" Vent Length – Two Pipe / Direct Vent	65 ft; deduct 5 ft per 90° elbow and 2 ft per 45° elbow
Common Venting	Yes
Installation Location Ambient Temperature	40°F – 130°F
Safety	Flame Rod, Thermal Fuse, Overheat Prevention Device, Fan Speed Monitor, Flue Temperature Monitor, Blocked Vent Detector, Water Shut-Off Valve, 2X10A Fuse, Dual Flame Sensing, Flue Damper
Water Pressure Min / Max (PSI)	30 / 160 <sup>†</sup>
Natural Gas and Propane – Minimum Static Gas Pressure 1/2" Pipe	NG=6" WC (non-corrugated, black iron); LP=8" WC
Natural Gas and Propane – Minimum Static Gas Pressure 3/4" Pipe	NG=2.5" WC (non-corrugated, black iron); LP=8" WC
Natural Gas and Propane – Maximum Static Gas Pressure	14" WC (set Gas regulator to 8" WC for NG 11" WC for LP)
Gas Pressure for Adjustments	8" WC for natural gas and 11" WC for propane
Electrical Requirements	120V AC, 60 Hz, 15 Amp Circuit Breaker
Power Consumption	500W (Max 4.2 Amps), 8W (Standby)
Features	
Listing	ETL (Z21.10.3 / CSA 4.3), ASME HLW, SCAQMD (Low NO <sub>x</sub> )
Cascading	Masterless, 10 units
Heat Exchanger	Expandable, Stainless 316L
Fittings and Internal Piping	Stainless 316L
Hot Water Capacity (35F Rise)	13.8
Hot Water Capacity (45F Rise)	10.7
Hot Water Capacity (77F Rise)	6.3
Commercial Mode Temp. Settings	100 – 190°F <sup>†</sup>
WARRANTY†	
Basic Warranty (without StartUp)	Hex – 1 Year, Parts – 1 Year, Labor - None
Enhanced Warranty (with StartUp)	Hex – 10 Years, Parts – 2 Years, Labor - None
Labor Warranty (with Start Up & telliCare Connection)	Hex – 10 Years, Parts – 2 Years, Labor - 1 Year

<sup>†</sup>The unit does not include a temperature and pressure relief valve (T&P). The customer is responsible for supplying the T&P based on the application. Please refer to section 3.6 of the I/O Manual.

<sup>†</sup> Heat Exchanger assembly (HEX) does not include, gas valve/blower assembly & sidecast. On 10 year| prorated after year 5. On 6 year| prorated after year 3. telliCare Service is free for one year. Start of warranty is: Per startup report or 2 months from date of manufacture. More specific warranty details can be found in I/O Manuals section 18.

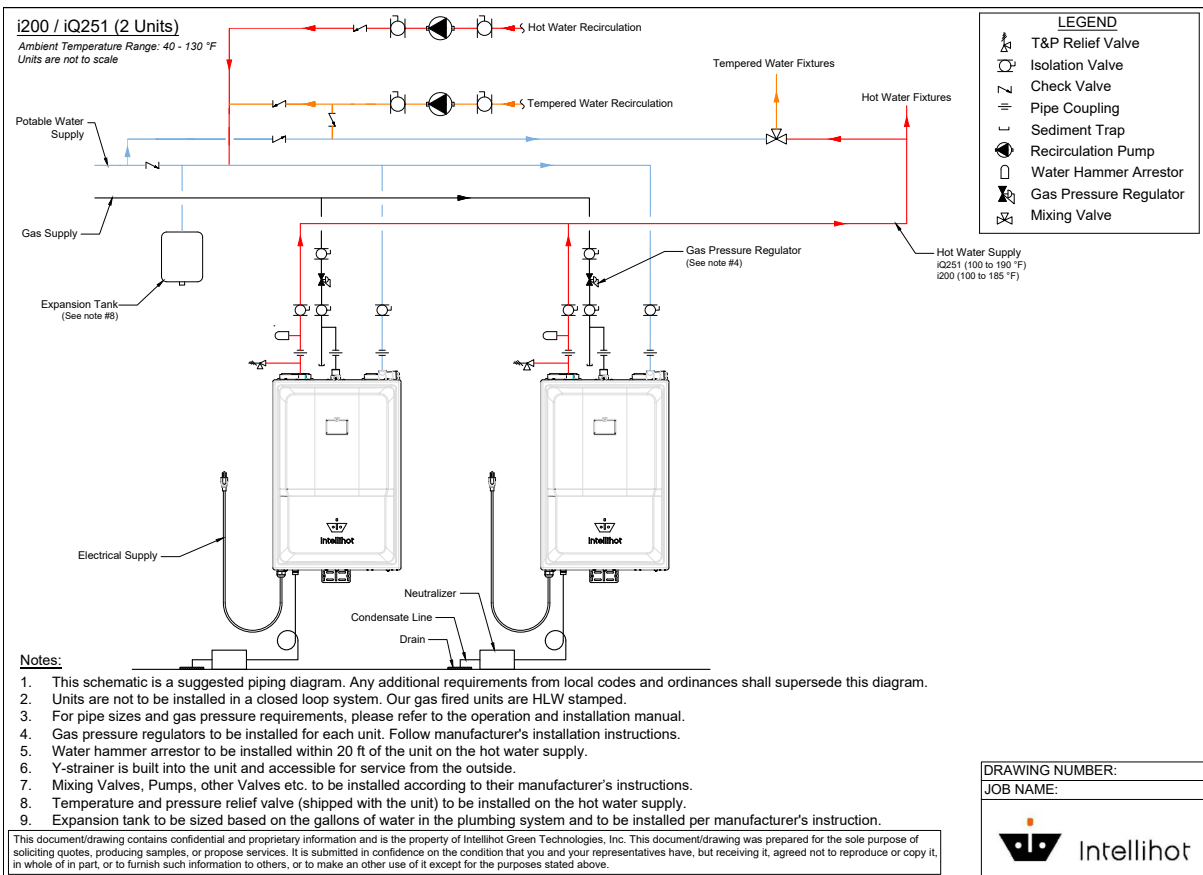
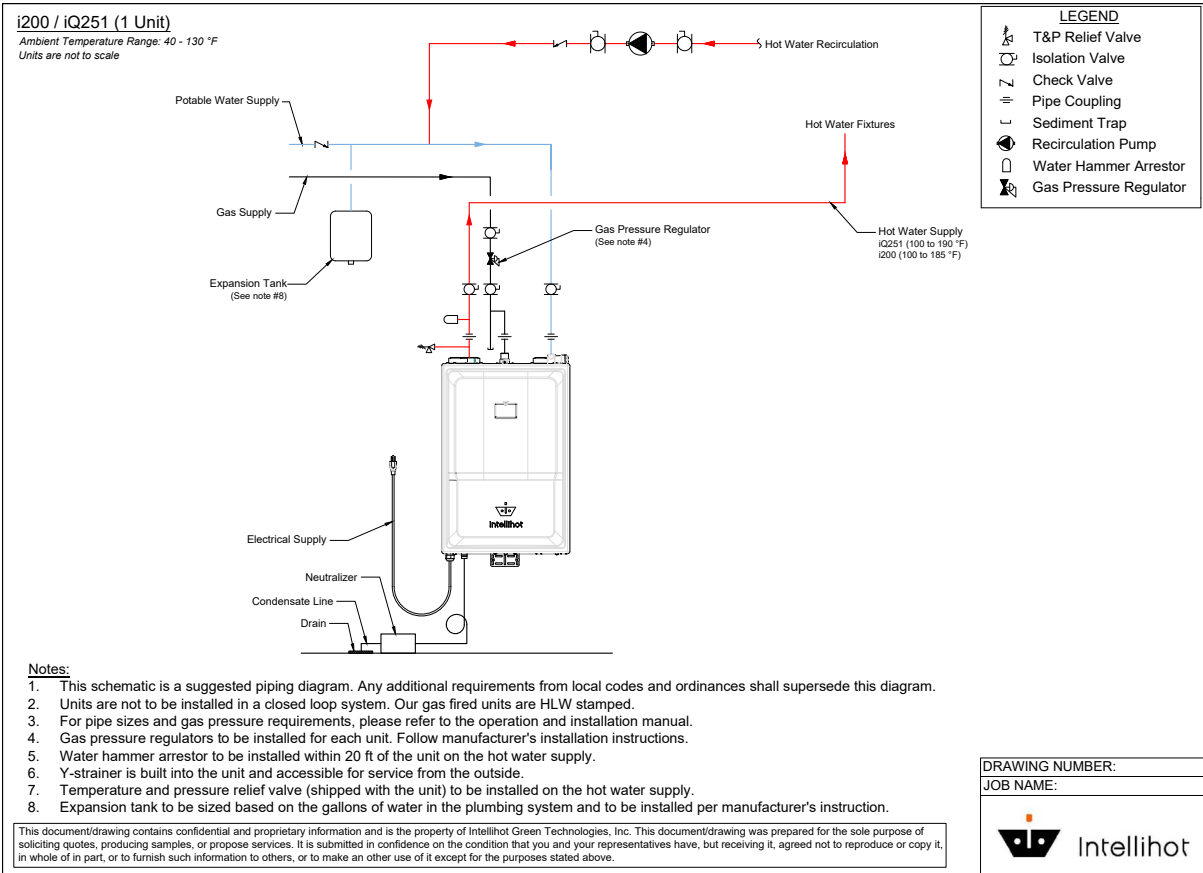
iQ251D, Gen II Dimensional Specifications



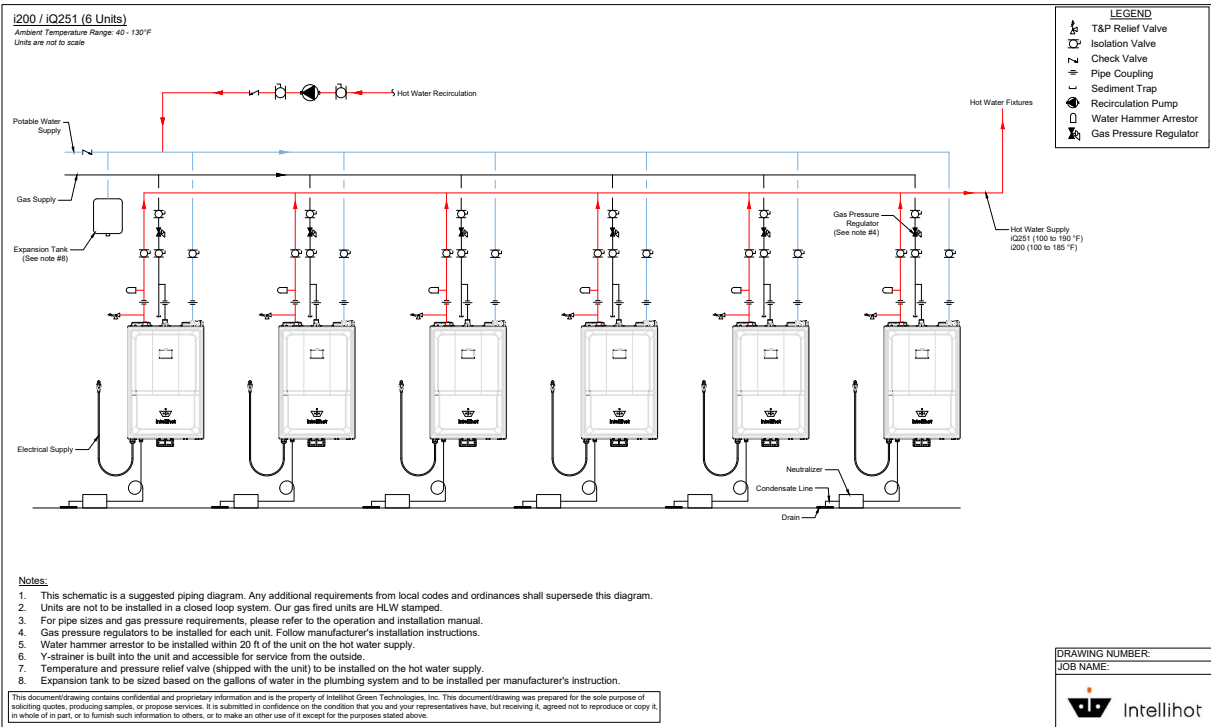
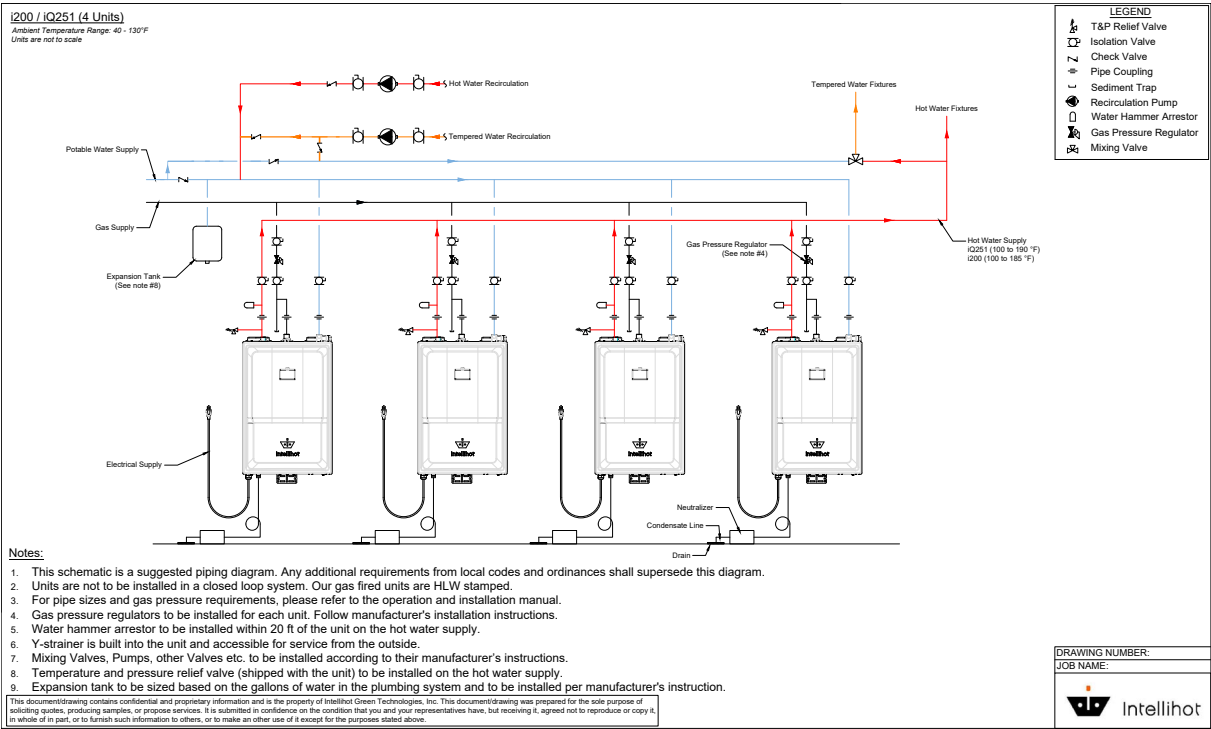
Note: All dimensions are in Inches, and equivalent metric values are specified within []



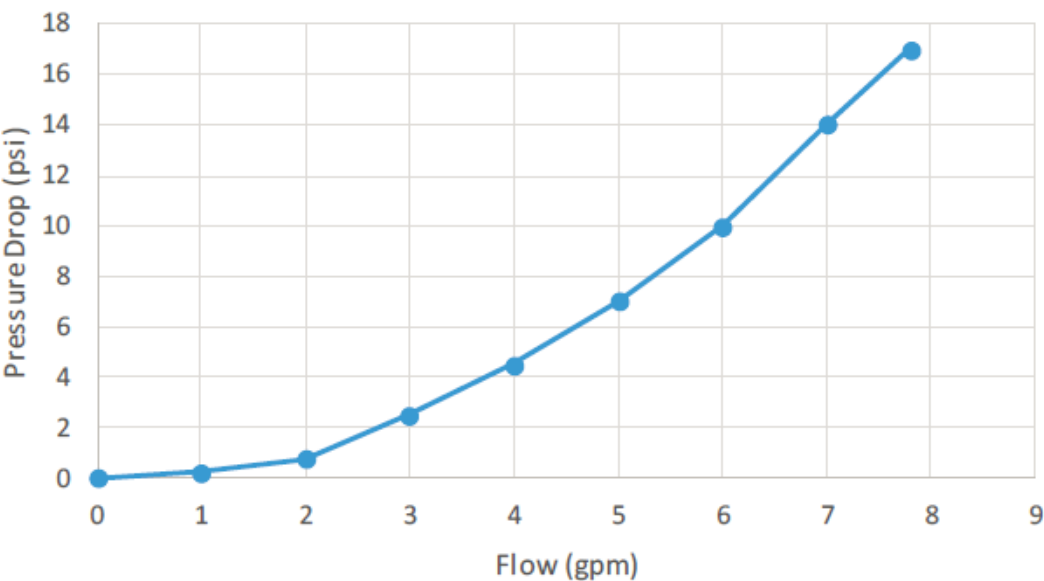
# iQ251D, Gen II Configuration Options



# iQ251D, Gen II External Recirculation



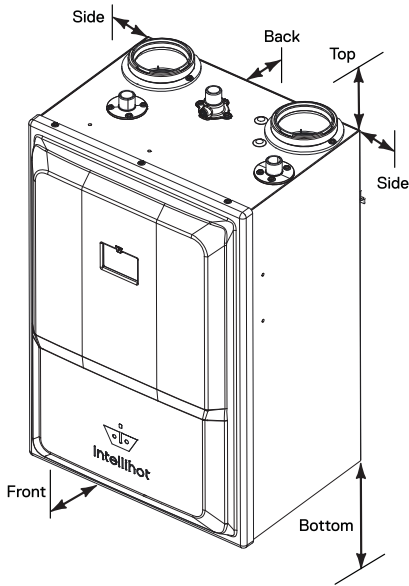
iQ251D, Gen II Pressure Drop & Clearance Requirements



Location	Required		Recommended Service Clearance <sup>1</sup>
	From Combustibles	From Non- Combustibles	
Top	6" (152 mm)	2" (50.8 mm)	12" (305 mm)
Back	5/8" (15.8 mm)	5/8" (15.8 mm)	5/8" (15.8 mm)
Sides	1" (25.4 mm)	1/2" (12.7 mm)	5/8" (15.8 mm)
Front	2" (51 mm)	2" (50.8 mm)	30" (762 mm)
Bottom	12" (305 mm)	12" (305 mm)	12" (305 mm)

<sup>1</sup> Service clearances are suggested to allow for normal service.

<sup>2</sup> Mounting bracket automatically sets this dimension.



iQ251D, Gen II Electrical Data

Electrical power required for the water heater is 120V AC, 60 Hz. The circuit breaker shall be a minimum of 15 amps. Only one water heater should be plugged into an outlet. Please ensure correct polarity of outlet before plugging in heater.



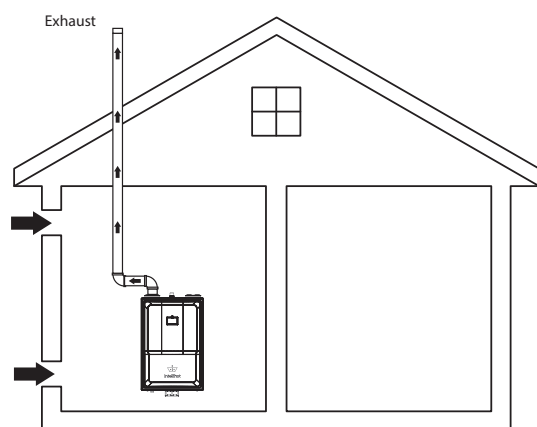
## iQ251D, Gen II Venting Guidelines

Number of Units	Venting Type	Maximum Pipe Length in Feet			
		3" Diameter	4" Diameter	6" Diameter	8" Diameter
		iQ251D, Gen II	iQ251D, Gen II	iQ251D, Gen II	iQ251D, Gen II
1	1 pipe - PV	130	200	200	200
	2 pipe - DV	65	100	100	100
2	1 pipe - PV	-	150	200	200
	2 pipe - DV	-	75	100	100
3	1 pipe - PV	-	70	200	200
	2 pipe - DV	-	35	100	100
4	1 pipe - PV	-	-	200	200
	2 pipe - DV	-	-	100	100
5	1 pipe - PV	-	-	500	200
	2 pipe - DV	-	-	100	100
6	1 pipe - PV	-	-	140	200
	2 pipe - DV	-	-	70	100
7	1 pipe - PV	-	-	100	200
	2 pipe - DV	-	-	50	100
8	1 pipe - PV	-	-	80	200
	2 pipe - DV	-	-	40	100
9	1 pipe - PV	-	-	-	200
	2 pipe - DV	-	-	-	100
10	1 pipe - PV	-	-	-	200
	2 pipe - DV	-	-	-	100

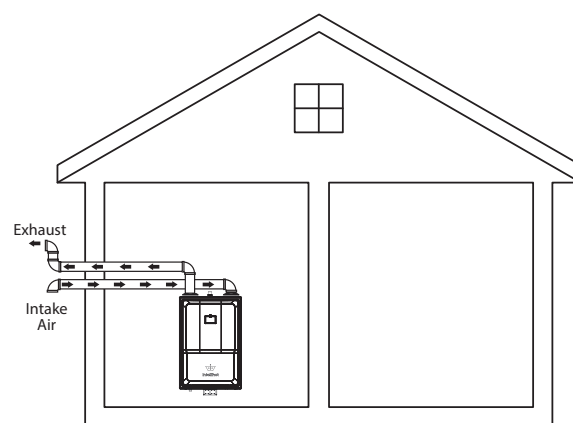
PV = Power Vent  
DV = Direct Vent

**Note:**

- Reduce the maximum equivalent length above by 5 feet per 90° elbow and by 2 feet per 45° elbow. Do not exceed above limits.
- SAFETY INSTRUCTIONS:** Do not connect any other appliance vents to the water heater inlet or outlet pipes.



1-Pipe Direct Vent



2-Pipe Direct Vent